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Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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MAY 1990

SUMMARY

April's reversal of the declining trend in total deliveries turned out to be short-lived. In May, deliveries reverted to the pattern of decline evident since the middle of last year, falling 1.3 percent for the month.

Gasoline and distillate deliveries in May both reversed their respective rises for April. Gasoline deliveries were weaker than might have been expected from consumption trends, falling 1.3 percent, while distillate deliveries' 6.7 percent decline followed an unusually strong increase for the prior month. Residual fuel oil deliveries continued to slip, falling 3.3 percent, while deliveries of "other oils" fell about 1.6 percent. The only major product to show an increase was kerosine jet fuel, which jumped over 14 percent from unusually low deliveries a year ago.

Domestic crude oil output dropped 6.1 percent or nearly 475 thousand B/D in May. In recent months, year-to-year declines in the lower 48 have been running at around 300 thousand B/D, less than last year's average 400 thousand B/D decline. The most recent figures add to the evidence that recent increases in well maintenance and new drilling have had some effect on output. Meanwhile, Alaskan production fell 184 thousand B/D or more than 9 percent, somewhat greater than the recent trend of around 6 or 7 percent.

Following April's small year-to-year decline, total imports jumped to 8.5 million B/D and exceeded 50 percent of deliveries on a monthly basis for the third time in the past year. Product imports rose more than 10 percent, only the second year-to-year increase since last summer. Imports of gasoline and components, in particular, after running from 340 to 360 thousand B/D in March and April, rose to more than 600 thousand B/D in May.

Meanwhile, delayed turnarounds and unexpected maintenance kept refinery activity subdued for much of May. For the month as a whole, input to distillation units averaged a decline of a little less than 1 percent and gasoline production dropped about 3 percent versus last May.

Total inventories, already high at the end of April, rose another 40 million barrels in May to over 1.1 billion barrels. With high crude oil imports and lower refinery runs, crude oil stocks rose 12 million barrels during the month. At 384 million barrels, they were about 40 million barrels above the May average of the previous five years. Gasoline inventories, ending the month at 217 million barrels, were near the low end of the recent-year range for May but were building gradually towards the end of the month.

PRODUCT SUPPLIED [1]

Gasoline

WEAK DELIVERIES DURING MAY. Gasoline deliveries, which had been about even with a year ago for the first four months of this year, fell 1.3 percent in May. The month's deliveries appear even weaker when considering that the comparison is made against deliveries a year ago which had been dampened by last spring's higher prices. Retail prices a year ago May were about 5 percent higher than for May 1990, or, on an inflation-adjusted basis, about 10 percent higher than for the same month this year.

There is little reason to believe, however, that underlying consumption weakened in May. The economy appears to be continuing at at least a moderate pace, and data on travel, though lagging deliveries data by two months, also do not suggest any further slackening in gasoline demand. It is true that February's unusually large, more than 5 percent increase in miles traveled could have been at least partly attributed to unusually mild weather and better-than-average driving conditions for that time of year. But March's increase was still a solid 3 percent, roughly in line with the previous trend.

Distillates

MAY DROPS AFTER APRIL'S JUMP. Including May's 6.7 percent, year-to-year decrease, distillate deliveries have fallen for four out of five months so far this year. Nevertheless, the underlying trend of distillate consumption over this period is estimated to have been one of slight growth. This is not as contradictory as it might first appear. The first quarter's decline of close to 5 percent, if adjusted for unusually mild weather, would have amounted to a slight increase. May's deliveries drop, though not much related to weather, followed an unusually large increase in April.

	API ESTIMATES MAY		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.3	(1.3)	16.8	(2.2)
Crude production[2]	7.3	(1.6)	7.3	(5.0)
Total imports[3]	8.5	11.7	8.3	7.8
Stocks (million bbl)[4]	1,108	5.3	na	na

Just as at least part of April's increase was the result of comparison against weak deliveries a year ago, part of May's calculated decline resulted from strong deliveries in the year-ago period—though this May's deliveries still appeared weak. For the year to date, distillate deliveries have declined about 2.8 percent—but if adjusted for weather, they would have risen about 0.5 percent, roughly in line with the estimated trend of slight growth.

Residual Fuel Oil

FUEL SHIFTS ALTER DEMAND. Deliveries of residual fuel oil fell in May for the fifth consecutive month. However, the 3.3 percent decrease was small when compared to the double digit decline during the first third of the year. While the smaller rate of decline accompanied only slight growth in electricity output, residual fuel use is believed to have been aided by drought-induced declines in hydroelectric generation on the West Coast and increasing price competitiveness of residual fuel vis-a-vis natural gas.

Electricity output is estimated to have grown by less than one percent in May, comparable to the low levels of growth seen during the first four months of 1990. Output in the Middle Atlantic and New England states (where electric utilities rely more heavily on residual-fired generation) actually declined during the month.

While overall flatness in electricity output worked against residual fuel demand, other factors are believed to have worked in its favor. Residual fuel oil prices became more competitive with natural gas prices during the month and may have tempered the ongoing utility substitution from residual fuel to natural gas. Furthermore, utilities in California reported a sizeable drop in hydro-powered generation during the month, resulting from the impact of the drought on reservoir levels. Residual-fired generation is believed to have serviced part of this void. Bunker fuel markets are believed to have been aided by favorable U.S. prices and continuing strength in the foreign trade picture. Since the beginning of the year, bunker prices on the West Coast have become more competitive with prices in the Far East.

Overall demand sluggishness for residual fuel since late last summer has been attributed in part to the substitution by electric power companies of natural gas for residual fuel. Indeed, residual fuel use by electric utilities over that period has fallen both in absolute terms and in terms relative to natural gas. It appears that an equally important factor may be the relative shift over the past year away from all fossil fuels toward nuclear generation, resulting from both a reduction in down-time and an expansion in nuclear capacity. Nearly half of newly added generation capacity in 1989 was nuclear.

During the winter months, electricity generation from all three fossil fuel groups (coal, petroleum, and natural gas) fell while nuclear and hydro-powered generation each grew by more than 20 percent. In January, for example, nuclear net generation in the three state mid-Atlantic region was up over 41 percent (more than 3 billion kilowatt-hours) while petroleum fired net generation was down more than 20 percent (more than 1.3 billion kilowatt-hours). The drop in petroleum-fired generation in these three states alone accounted for over 35 percent of the drop nationwide.

Kerosine Jet Fuel

DELIVERIES' GROWTH SURPASSES THAT OF TRAVEL. Kerosine jet fuel deliveries jumped by 14.4 percent in May, outpacing estimated growth in airline travel for the first time this year. However, perhaps half the apparent surge in deliveries this May is attributable to relatively low deliveries last May.

May marked the thirteenth consecutive month of increasing airline travel, following a dip a year ago March in miles flown following the Eastern strike. Growth in passenger traffic continues to be greatest on international routes, which has been running at an estimated 13 percent in recent months. However, growth in domestic travel has recently been running at about 10 percent, compared with about 3 percent earlier this year. Much of the current large growth, however, reflects the slackening in miles flown (and higher load factors) last spring. Overall, the underlying growth rate in airline mileage is believed to be about 4 percent—lower than the rate seen during the first five months of 1990.

Because of fuel inventory management by airlines, monthly growth rates in deliveries of kerosine jet fuel and airline travel do not always track each other well in the short run; however, they tend to grow at similar rates over time. Thus far in 1990, deliveries have grown 3.5 percent while estimated seat miles have grown by about 8 percent. The 4.5 percent divergence in the two growth rates for the first five months is relatively large, but appears to be narrowing.

Other Oils

DELIVERIES SLIP ABOUT 2 PERCENT. Deliveries of "other oils" fell 1.6 percent in May, continuing for a second month a lesser rate of decline than previously had been apparent.

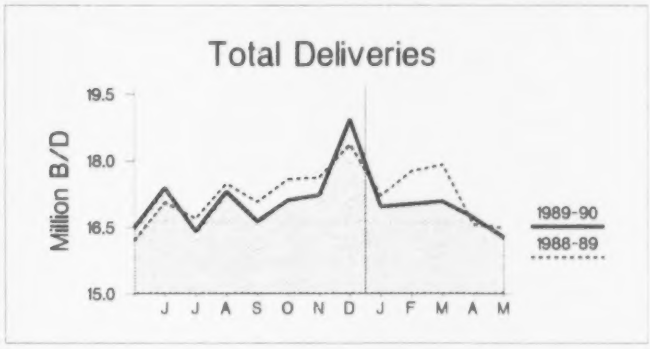
Recently-released data confirm that at least part of the first quarter's 250 thousand B/D, 6.0 percent decline was related to the warm weather's effect on propane deliveries, which fell about 160 thousand B/D or nearly 14 percent for the quarter. Ethane deliveries also contributed nearly 100 thousand B/D to the decline, loosing market share to liquid feedstocks, which nevertheless rose only slightly because of weak feedstock demand overall. The warm weather apparently provided a better-than-usual opportunity for road work, however, with asphalt deliveries rising about 50 thousand B/D or by more than 25 percent for a period which is typically a seasonal low point. Adjusting for weather, the quarter's decline for "other oils" would have been 4 or 5 percent.

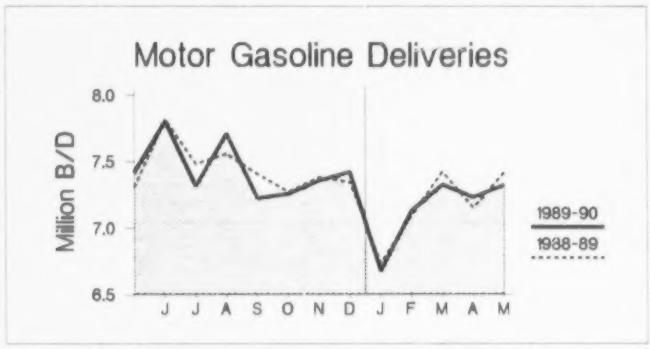
A small, but not insignificant portion of the "other oils" category consists of lubricating oils. About 1 percent of all finished petroleum products supplied, the so-called lube oils (comprising automotive oils, greases, and industrial oils) make up about 5 percent of the "other oils" class. The Department of Energy has reported that deliveries of products in this category increased by 2.6 percent in 1989, slightly above the trend growth of about 2 percent during the previous three years.

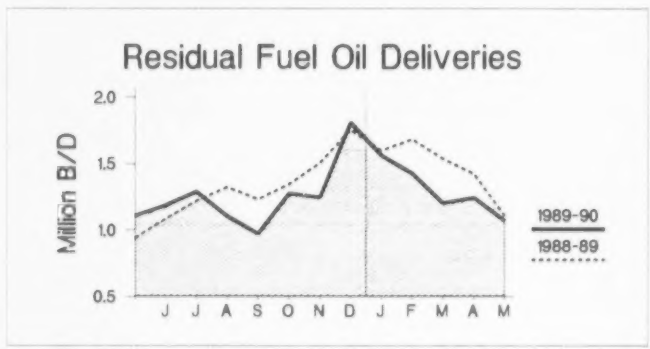
The National Petroleum Refiners Association reports that within the lube oil category, sales growth in automotive and industrial process oils over the past three years has outpaced growth in the sale of greases and other industrial lubricants. In 1989, growth was driven primarily by automobile oils (including

engine oils, transmission and hydraulic fluids, and gear oils which together comprise over half of lube oil sales volumes).

Interestingly, in the 1980's, growth in the sale of automobile engine oils (about 80 percent of all automobile oil sales) lagged considerably behind growth in both the vehicle fleet and the number of miles travelled by the vehicle fleet. The divergence between the growth rates is attributable, in part, to two factors. First, change in engine design has reduced oil losses, and the engine size of a representative motor vehicle has gotten smaller over the past decade. Smaller engines (with smaller crankcases) require less oil with each oil change. Second, the quality of engine oil has improved significantly. Not only do better grade oils require changing less frequently, they require less topping off in between changes.







SUPPLY [1/]

Production

LOWER 48's DECLINE LESS THAN IN 1989. Domestic crude oil production fell 6.1 percent or nearly 475 thousand B/D in May. Lower 48 output declined 290 thousand B/D, or 5.0 percent, continuing to show lesser year-to-year declines than evident during 1989. The most recent estimates show that, in recent months, declines in lower 48 output have been running at roughly 300 thousand B/D, less than last year's annual average drop of 400 thousand B/D or 6.7 percent. This may be evidence that recent increases in well servicing and oil drilling activity have had some impact on production levels.

Alaskan crude oil output fell 184 thousand B/D or 9.3 percent, somewhat more than the recent trend of around 6 or 7 percent. Major maintenance projects are scheduled to temporarily reduce North Slope output further this summer.

The work includes additions to capacity for separating gas and water from the crude, as well as overall maintenance. Five of the field's flow stations are scheduled to be taken down, one at a time, for roughly two weeks each. With each station normally handling about 200 to 300 thousand B/D, the maintenance as announced would cause a dip in the field's output of roughly 20 to 25 million barrels over the next several months. Down time for general maintenance in the Endicott field, which normally produces about 100 thousand B/D, is also planned later in the summer, which would add perhaps another million barrels to the dip.

Imports

AGAIN, IMPORTS PASS 50 PERCENT OF DELIVERIES. As might have been expected due to the continued decline in domestic production, April's small, year-to-year decline in imports turned out to be a temporary aberration. In May, total imports jumped to 8.5 million B/D, up nearly 12 percent over a year ago. Partly because of seasonally lower demand at this time of year, the month's unusually strong imports amounted to more than 52 percent of domestic deliveries. This is the third time that the 50 percent mark has been exceeded on a monthly basis in the past year. The only other period during which total imports' share passed the half-way point was for a few months in 1977.

Product imports' 10.4 percent increase in May was only the second since last summer. (The first had been this past January, when inventories were being rebuilt after December's strong, weather-related demand.) Though part of the increase results from comparison against lower imports last May, product

imports this May were also stronger compared with those of recent previous months, particularly for gasoline.

Earlier in the year, some had expressed concerns that the availability of gasoline imports might be less this year than in the past. But in May, with domestic refinery output hampered, imports of gasoline and components set a monthly record. After running 340 to 360 thousand B/D in March and April, they rose to 602 thousand B/D in May, up nearly 200 thousand B/D over a year ago. Finished gasoline imports amounted to about 540 thousand B/D. Kerosine jet fuel imports also rose 27 thousand B/D to 137 thousand B/D. Distillate fuel oil imports, however, were unusually weak, and at 200 thousand B/D, were down by nearly a third from last May. Residual fuel oil imports dropped 50 thousand B/D to 476 thousand B/D.

Refinery Operations

INPUT OFF SLIGHTLY, GASOLINE DOWN 3 PERCENT.

Input to distillation units slipped 0.7 percent in May from one year earlier. Weaker demand has played a role in the decline; for the year to date, total deliveries have dropped about 2 percent—though refinery input still averaged about 1 percent higher. Unscheduled maintenance and delayed turnarounds have also had an impact on recent levels of refinery activity. Refinery runs were beginning to pick up towards the end of the month, and by month-end were running at levels comparable to last May. However, gasoline output still averaged about 3 percent less than for the same month a year ago; residual fuel oil output fell about 2 percent, while distillate production rose 4.5 percent.

Utilization of the capacity in actual operation was still estimated at a reasonably strong 90 percent for the month; on the basis of reported capacity, utilization averaged 86.3 percent, down slightly from that of last May.

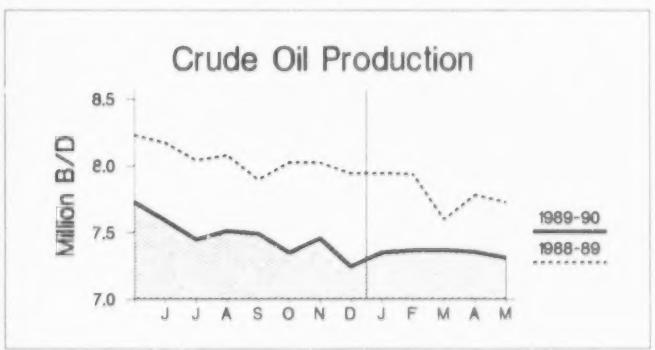
Inventories

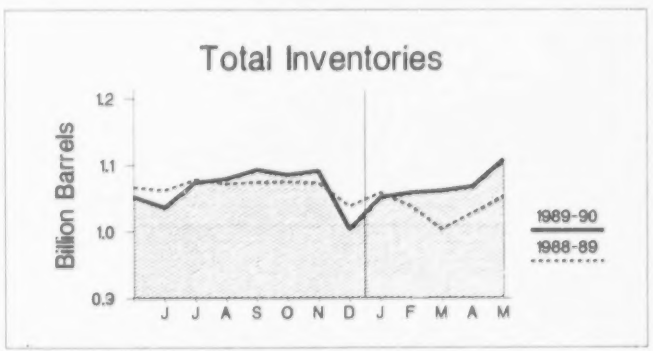
UP ANOTHER 40 MILLION BARRELS.

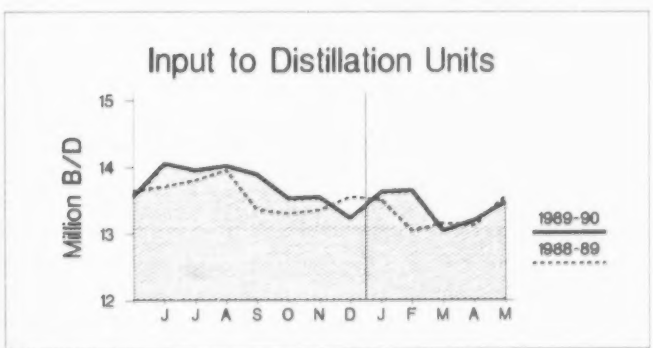
Total inventories, already high by recent historical standards at the end of April, rose again in May by about twice the typical amount. The 40 million barrel increase put total stocks at over 1.1 billion barrels, mainly because of continued high crude oil stocks. With strong imports of crude oil continuing in May and the effects of maintenance and turnarounds at refineries, crude oil inventories rose 12 million barrels to nearly 384 million barrels. This was roughly 40 million barrels above the average for the previous five Mays.

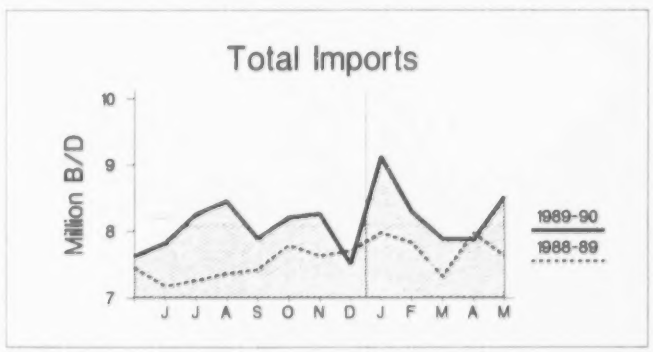
Gasoline inventories declined 4 million barrels during May to 217 million barrels. Though close to the lower end of the 215 to 235 million barrel range of recent prior Mays, this was still about 12 million barrels above the estimated minimum operating level. In recent years, gasoline inventories have supplied at most about 1 percent of deliveries during the summer driving months.

Distillate stocks rose 8 million barrels to 104 million barrels, within the recent historical range for May.









1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 586 million barrels as of May 31, 1990).

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	MAY			YEAR-TO-DATE		
	1990[1]	1989[2]	% Change	1990[3R]	1989[2]	% Change
Products Supplied:						
Total motor gasoline	7,321	7,416	(1.3)	7,136	7,164	(0.4)
Finished leaded motor gasoline/*	439	930	(52.8)	438	968	(54.8)
Finished unleaded motor gasoline/*	6,882	6,486	6.1	6,698	6,196	8.1
Naphtha-jet	175	224	(21.9)	184	202	(8.9)
Kerosine-jet	1,262	1,103	14.4	1,280	1,237	3.5
Distillate fuel oil	2,759	2,957	(6.7)	3,121	3,211	(2.8)
Residual fuel oil	1,069	1,105	(3.3)	1,298	1,464	(11.3)
All other oils[4]	3,836	3,898	(1.6)	3,916	4,082	(4.1)
Reclassified[5]	-151	-215	(29.8)	-125	-180	(30.6)
Total domestic products supplied	16,271	16,488	(1.3)	16,810	17,180	(2.2)
Exports	853	792	7.7	806	818	(1.5)
Total products supplied	17,124	17,280	(0.9)	17,616	17,998	(2.1)
Supply:						
Domestic production:						
Crude oil[6]	7,309	7,782	(6.1)	7,348	7,735	(5.0)
Natural gas liquids	1,528	1,623	(5.9)	1,540	1,639	(6.0)
Other supply[7]	1,074	1,033	4.0	1,078	969	11.2
Total domestic supply	9,911	10,438	(5.0)	9,966	10,343	(3.6)
Imports:						
Crude oil, total[8]	6,268	5,588	12.2	6,068	5,367	13.1
Canadian	672	635	5.8	596	622	(4.2)
Other	5,596	4,953	13.0	5,472	4,745	15.3
Products, total	2,243	2,032	10.4	2,273	2,372	(4.2)
Residual fuel oil	476	526	(9.5)	559	728	(23.2)
Other	1,767	1,506	17.3	1,714	1,644	4.3
Total imports	8,511	7,620	11.7	8,341	7,739	7.8
Total supply	18,422	18,058	2.0	18,307	18,082	1.2
Stock change, all oils	1,298	778	*****	691	84	*****
Refinery Operations:						
Input to crude oil distillation units	13,469	13,561	(0.7)	13,396	13,280	0.9
Operable capacity	15,614	15,679	(0.4)	15,560	15,678	(0.8)
Refinery utilization (%)[9]	86.3	86.5	(0.2)	86.1	84.7	1.7
Crude oil runs	13,343	13,395	(0.4)	13,249	13,090	1.2

Stocks (millions bbls.)	1990		1989[2]	% Change from	
	May 30[10]	Apr. 30[10]	May 31	Previous Month	Year Ago
Crude oil[8]	384.4	372.1	345.3	3.3	11.3
Unfinished oils	115.2	107.4	114.6	7.3	0.5
Total motor gasoline/**	216.5	220.0	223.6	(1.6)	(3.2)
Finished leaded motor gasoline/*	11.7	12.6	26.8	(7.1)	(56.3)
Finished unleaded motor gasoline/*	165.7	168.5	157.1	(1.7)	5.5
Naphtha-jet	6.6	6.4	6.1	3.1	8.2
Kerosine-jet	42.2	41.6	39.2	1.4	7.7
Distillate fuel oil	104.0	96.5	99.3	7.8	4.7
Residual fuel oil	45.9	43.6	42.6	5.3	7.7
All other oils	192.9	179.9R	181.3	7.2	6.4
Total all oils	1,107.7	1,067.5R	1,052.0	3.8	5.3

/1 Based on API estimated data converted to a monthly basis.
/2 Source: U.S. Department of Energy.
/3 January-March, DOE, April-May, API.
/4 Includes crude losses.
/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.
/6 API estimate; includes lease condensate.
/7 Includes Unaccounted-for crude oil, Processing gain and Field Production of other hydrocarbons and alcohol.
/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".
/10 Derived by interpolating API weekly stocks data.
/R Revised.
/* Included in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.